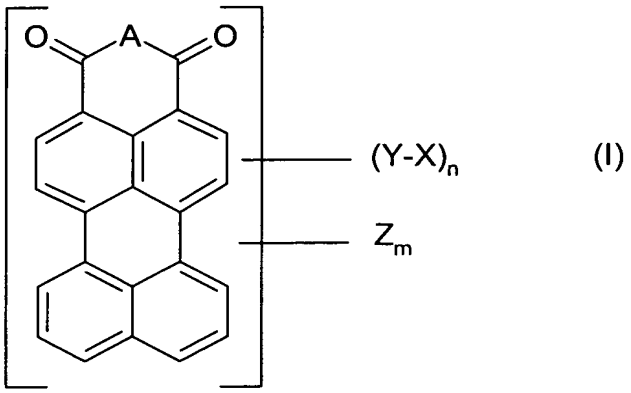
AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): A perylene derivative of the formula (I)



(I)

where

A has the definition O, CH_2 or NR^1 with R^1 being H, aryl, aralkyl, heteroaryl, cycloalkyl, C_1-C_{22} alkyl,

Y, each identical or different, is $-CO_2$, $-CONR^2$, $-SO_3$ or $-SO_2NR^2$, R^2 being H, aryl, aralkyl, heteroaryl, cycloalkyl, C_1-C_{22} alkyl, alkylamine, in which the amine function may carry one or more further substituents and may be part of a polyamine,

X, each identical or different, is ~~a predominantly~~ bonded covalently to the perylene derivative and is selected from the group consisting of sterically stabilizing substituents and ~~/or~~ electrostatically stabilizing ~~substituent~~ substituents, at least one X being selected from the sterically stabilizing substituents,

Z, each identical or different, represents where present one or more further substituents, selected from the group consisting of alkyl, alkoxy, and aryloxy groups and halogens,

n is an integral number greater than or equal to 1, and

m is an integral number greater than or equal to 0; and

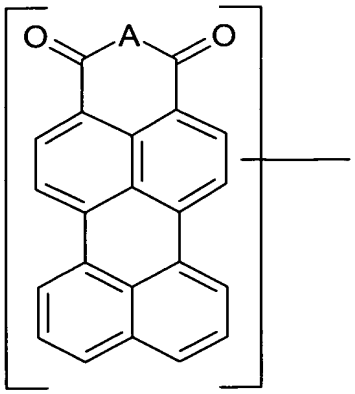
wherein the ~~predominantly~~ sterically stabilizing ~~and/or electrostatically stabilizing substituent is/are bonded covalently to the perylene derivative~~ substituents are selected from the group consisting of polymers based on alkylene oxides, polymers based on polyesters, polymers based on polyacrylates, polymers based on alkyl sulfides, and polymers based on alkyl compounds.

Claim 2 (Canceled)

Claim 3 (Currently Amended): A perylene derivative as claimed in ~~claim 2~~ claim 1, wherein the polymers are block (co)polymers.

Claim 4 (Previously Presented): A perylene derivative as claimed in claim 1, wherein the electrostatically stabilizing substituents contain ammonium groups and/or protonatable amino groups.

Claim 5 (Previously Presented): A perylene derivative as claimed in claim 1, wherein in the formula (I) n = 1 and m = 0 and the perylene derivative is of the formula (III)



(III)

where in the formula (III)

A is NH,

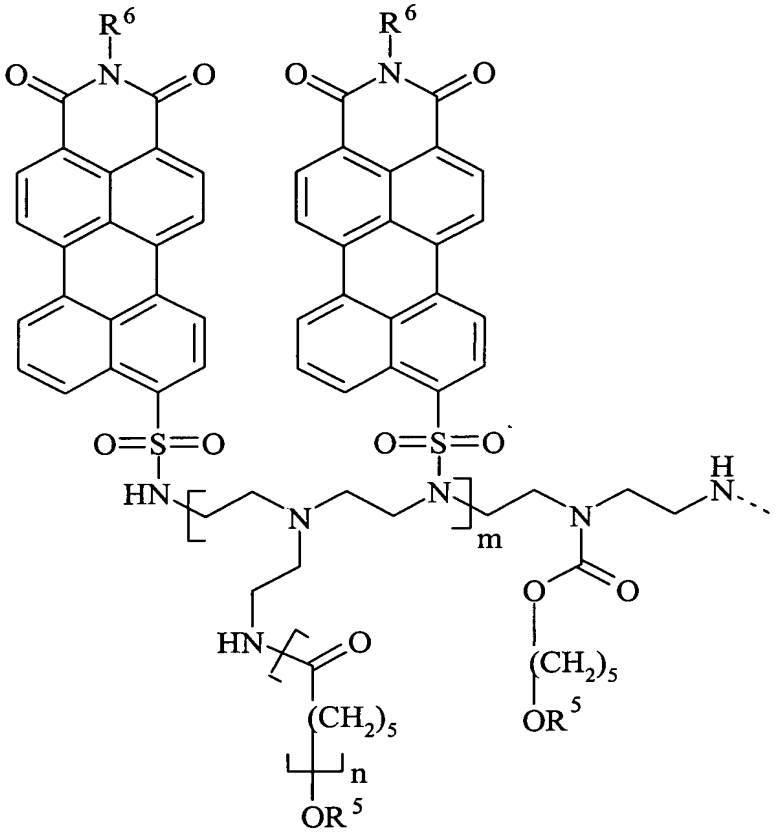
Y is –CONH, $-SO_3$ or $–SO_2NH$,

X is a substituent which includes a protonatable amino group,

or

X is C_1-C_{30} alkyl or C_3-C_{30} alkenyl, it being possible for the carbon chain to be interrupted in each case by one or more groups -O-, -CO-O-, -O-CO- or -S- and each of which may be substituted by C_1-C_6 alkoxy, amino, hydroxyl, carboxyl groups and halogens, where R^4 is H, alkyl, cycloalkyl, aryl, heteroaryl or aralkyl.

Claim 6 (Previously Presented): A perylene derivative of the formula (IV)



(IV)

in which

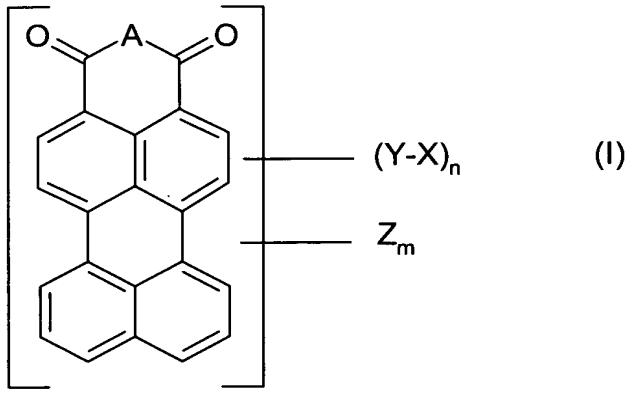
m is an integral number from 1 to 100,

n is an integral number from 1 to 20,

R^5 is C_{1-64}-alkyl-SO_2, and

R^6 is H or C_1-C_6 alkyl.

Claim 7 (Currently Amended): A process for preparing a perylene derivative ~~as claimed in claim 1,~~ of the formula (I)



(I)

where

A has the definition O, CH_2 or NR^1 with R^1 being H, aryl, aralkyl, heteroaryl, cycloalkyl, C_1-C_{22} alkyl,

Y, each identical or different, is $-CO_2$, $-CONR^2$, $-SO_3$ or $-SO_2NR^2$, R^2 being H, aryl, aralkyl, heteroaryl, cycloalkyl, C_1-C_{22} alkyl, alkylamine, in which the amine function may carry one or more further substituents and may be part of a polyamine,

X, each identical or different, is a predominantly sterically stabilizing and/or electrostatically stabilizing substituent,

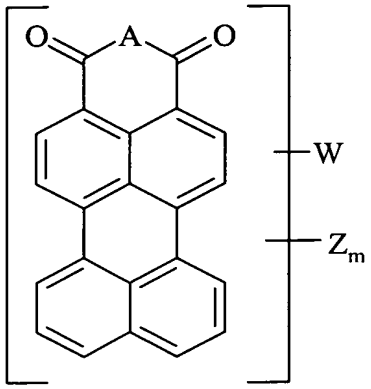
Z, each identical or different, represents where present one or more further substituents, selected from the group consisting of alkyl, alkoxy, and aryloxy groups and halogens,

n is an integral number greater than or equal to 1, and

m is an integral number greater than or equal to 0, and

wherein the predominantly sterically stabilizing and/or electrostatically stabilizing substituent is/are bonded covalently to the perylene derivative; and

wherein a COCl- and/or SO_2Cl-substituted perylene derivative of the formula (V)



(V)

W=COCl or SO_2Cl

in which A is O, CH_2 or NR^1 with R^1 being H, aryl, aralkyl, heteroaryl, cycloalkyl, C_1 to C_{22} alkyl,

Z, each identical or different, is where present one or more further substituents, selected from the group consisting of alkyl, alkoxy, and aryloxy groups and halogens, and

m is an integral number greater than or equal to 0

is reacted with alcohols, thiols and/or amines.

Claim 8 (Previously Presented): A perylene derivative, obtained by a process as claimed in claim 7.

Claim 9 (Currently Amended): A pigment preparation comprising

(a) at least one organic pigment; and

(b) ~~at least one compound composed of a parent structure and at least one substituent covalently bonded to said structure,~~

the ~~structure being a~~ perylene derivative of Claim 1 ~~, and~~

~~the substituent or substituents being able to exert a sterically and/or electrostatically stabilizing effect on a pigment;~~

as pigment dispersant.

Claim 10 (Canceled)

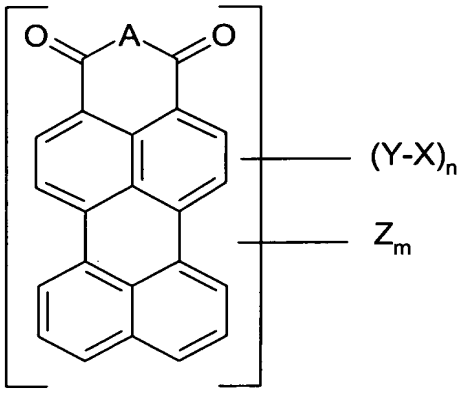
Claim 11 (Currently Amended): A pigment preparation as claimed in claim 9, wherein the pigment preparation contains from 2 to 50% by weight of pigment dispersant per g of pigment in the case of the sterically stabilizing ~~radicals~~ substituents and from 0.5 to 5% by weight of pigment dispersant per g of pigment in the case of the electrostatically stabilizing ~~radicals~~ substituents.

Claim 12 (Currently Amended): A pigment preparation as claimed in claim 9, wherein the ~~pigments are~~ at least one organic pigment is finely divided and ~~have~~ has an average primary particle size of less than 300 nm.

Claim 13 (Canceled)

Claim 14 (Currently Amended): A process ~~as claimed in claim 13~~ for preparing the pigment preparation of claim 9, ~~wherein~~ the process comprising

mixing at least one organic pigment and, as pigment dispersant, a perylene derivative of the formula (I)



(I)

where

A has the definition O, CH_2 or NR^1 with R^1 being H, aryl, aralkyl, heteroaryl, cycloalkyl, C_1-C_{22} alkyl,

Y, each identical or different, is $-CO_2$, $-CONR^2$, $-SO_3$ or $-SO_2NR^2$, R^2 being H, aryl, aralkyl, heteroaryl, cycloalkyl, C_1-C_{22} alkyl, alkylamine, in which the amine function may carry one or more further substituents and may be part of a polyamine,

X, each identical or different, is ~~a predominantly~~ bonded covalently to the perylene derivative and is selected from the group consisting of sterically stabilizing substituents and ~~/or~~ electrostatically stabilizing ~~substituent~~ substituents, at least one X being selected from the sterically stabilizing substituents,

Z, each identical or different, represents where present one or more further substituents, selected from the group consisting of alkyl, alkoxy, and aryloxy groups and halogens,

n is an integral number greater than or equal to 1, and

m is an integral number greater than or equal to 0

~~is used as pigment dispersant~~ ; and

wherein the sterically stabilizing substituents are selected from the group consisting of polymers based on alkylene oxides, polymers based on polyesters, polymers based on polyacrylates, polymers based on alkyl sulfides, and polymers based on alkyl compounds.

Claim 15 (Original): A process as claimed in claim 14, wherein the pigment dispersant and the organic pigment are mixed with one another in the form of dry powders.

Claim 16 (Previously Presented): A pigment dispersion, comprising at least one perylene derivative as claimed in claim 1.

Claim 17 (Previously Presented): A pigment dispersion, comprising at least one pigment preparation as claimed in claim 9.

SUPPORT FOR THE AMENDMENTS

This Amendment cancels Claims 2, 10 and 13; and amends Claims 1, 3, 7, 9, 11-12 and 14. Support for the amendments is found in the specification and claims as originally filed. In particular, support for Claim 1 is found at least in Claim 1 and in canceled Claim 2. Support for "substituents" in Claims 1 and 11 is found in the specification at least at page 4, lines 7-8, and page 7, lines 22-25. Support for Claim 12 is found in the specification at least at page 14, line 26 ("at least one organic pigment"). Support for Claim 14 is found in canceled Claims 2 and 13. No new matter would be introduced by entry of these amendments.

Upon entry of these amendments, Claims 1, 3-9, 11-12 and 14-17 will be pending in this application. Claims 1 and 6-7 are independent.

REQUEST FOR RECONSIDERATION

Applicants respectfully request entry of the foregoing and reexamination and reconsideration of the application, as amended, in light of the remarks that follow.

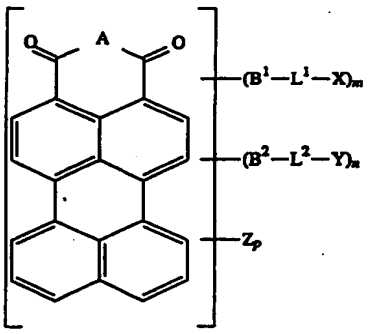
Applicants thank the Examiner for the indication that independent Claim 6 is allowable over the art of record. Final Rejection at page 4, section 6. In addition, Applicants thank the Examiner for the indication that Claims 7-8 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Final Rejection at page 4, section 7. Claim 7 is rewritten in independent form.

Applicants thank the Examiner for the courtesies extended to their representative during the April 28, 2005, personal interview.

The present invention provides perylene derivatives that can be used as pigment dispersant.

Claims 1-5 and 9-17 are rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,472,494 ("Hetzenegger").

Hetzenegger discloses pigment preparations containing (a) at least one organic pigment, and (b) as dispersant, at least one perylene derivative of the following general formula



where
A is —O—, —CH_2— or —NR^1—;
B^1 and B^2 are independently of each other a chemical bond, —O—, —CH_2—, —NR^2—, —S—, —CO—, —SO_2— or —SO_2—NH—;
L^1 and L^2 are independently of each other a chemical bond, phenylene or C_1–C_8-alkylene;
X is —$SO_3^{\ominus}Ka^{\oplus}$;
Y is —$CO_2Ka^{\oplus}$;
Z is chlorine or bromine;
m is from 0 to 4;
n is 0 or 1 and (m+n) is from 1 to 4; and
p is from 0 to 4

The perylene derivatives of Hetzenegger are at least singly substituted, the substituent being composed of an anionic radical satisfied with a cation Ka^+. Thus, Hetzenegger discloses perylene derivatives that are salts, with ionic bond(s) formed by electrostatic forces.

However, Hetzenegger's salts fail to suggest the independent Claim 1 limitations that "X, each identical or different, is bonded covalently to the perylene derivative and is selected from the group consisting of sterically stabilizing substituents and electrostatically stabilizing substituents, **at least one X** being selected from the **sterically stabilizing substituents**, ... wherein the sterically stabilizing substituents are selected from the group consisting of

polymers based on alkylene oxides, polymers based on polyesters, polymers based on polyacrylates, polymers based on alkyl sulfides, and polymers based on alkyl compounds".

Because Hetzenegger fails to suggest all the limitations of Claim 1, the rejection over Hetzenegger should be withdrawn.

Claims 4 and 11-12 are rejected under 35 U.S.C. § 112, second paragraph. To obviate the rejection, the claims are amended.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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